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United States  
Department of  
Agriculture

Food and  
Nutrition Service

Program Aid  
Number 1264

# Food Service Equipment Guide for Child Care Institutions



CHILD CARE FOOD PROGRAM  
(SAMPLE KITCHEN FLOOR PLAN)

August 1980

This publication supersedes PA-999, "Equipment Guide for Preschool and School Age Child Service Institutions," slightly revised 1974.

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# Introduction

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This guide is designed to help child care institutions who participate in the U.S. Department of Agriculture's (USDA's) Child Care Food Program plan new or equip older food service facilities.

The Child Care Food Program provides Federal cash assistance to help licensed, nonprofit child care institutions offer nutritious food, along with organized child care services, to enrolled preschool or school-age children. USDA gives cash to child care centers to support the cost of the food service. Other funds are available to buy or rent equipment for storing, preparing, transporting, and serving food.

In addition to preschool and school-age children, people over 18 years of age who meet their State's definition of mentally or physically handicapped can participate if they are enrolled in child care institutions where the majority are 18 years of age or younger. Participating institutions must run a nonprofit food service and serve meals which meet USDA nutritional standards.

This publication describes the equipment child care institutions need to prepare meals for up to 100 children. The exact type, size, and number of items you should have will vary with the menu, the ways you prepare food, and other variables. You should consider these variables when using this guide. If future expansion is likely, be certain to allow for it when choosing equipment. Consider all existing equipment, as well, so that any new equipment will be compatible with existing items.

Your selection of equipment from the items recommended in this publication should be based on cost, durability, practicality, and compatibility. We recommend commercial equipment over domestic equipment; however, domestic equipment is more appropriate for smaller centers (those with fewer than 30 children).

**The equipment you choose must meet State and local health, fire, and safety codes. If you are building or extensively remodeling a facility, you must submit plans and specifications to the State and local authorities for approval.** Fire officials are particularly concerned with cooking equipment and its proper ventilation, so you would be wise to learn local requirements.

For help in determining equipment needs, you should contact the State agency or Food and Nutrition Service regional office that administers the Child Care Food Program in your State. These offices can offer technical help through visits, by mail, or over the phone in evaluating existing equipment and facilities, determining needs, and planning new facilities. Local resources such as equipment suppliers, utility companies, architects, and food facilities' consultants can also help you determine needs and select appropriate equipment.



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Food Service Equipment Assistance funds are available in each fiscal year to help with the purchase of equipment. The State agency or FNS regional office that administers the program in your State selects centers for funding based on their relative need and the amount of funds available. Up to 75 percent of the cost of equipment can normally be funded. Institutions that are classified as especially needy may be eligible for the entire amount. Only food service equipment is eligible for funding. Land, buildings, disposable items, and non-food-service equipment are not. Disposable items include paper plates, paper trays, paper cups, and straws. (These items can be claimed as an allowable operating cost in the Child Care Food Program.)

You can get applications for equipment assistance funds from the above-mentioned State agency or FNS regional office. The administering agency must approve an application before it will fund the purchase of equipment. However, recommendation of a piece of equipment in this guide is no assurance that it will be approved for purchase with Food Service Equipment Assistance funds.

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# Determining Large Equipment Needs

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Use the charts and information on the following pages as a general guide in deciding what large equipment you need. Consider such variables as menus, available labor and space, existing equipment, and availability and cost of utilities.

Consider the following large equipment item by item to see what you need for each operation. Each one is more fully discussed, and desirable features described in the following pages. Base your selections on the number of people you will serve.

- Ranges with ovens providing stovetop and oven cooking
- Ventilating (exhaust) system over the cooking equipment
- Refrigerator and freezer for adequate controlled-temperature storage
- Food mixer
- Slicer (**optional**)
- Dishwasher (**optional**)
- Sinks: three-compartment and hand
- Disposer (**optional**)
- Worktable and/or countertop
- Shelving for dry storage
- Mobile utility carts (**optional**)
- Serving equipment (**optional**)
- Dining area equipment—tables and chairs

## Also:

For up to 30 meals:

- toaster
- small domestic grills
- blenders
- electric fry pans with dome covers

## Over 100 meals:

- steam equipment
- convection ovens
- fryers

Be sure to consider your institution's menu philosophy and future plans for expansion. If, for example, adequate space is available and you plan to do a considerable amount of baking, a 56-inch to 72-inch range would be desirable, preferably one large enough to have two full-size ovens. Additionally, you would need a mixer of adequate size with a dough hook and other attachments.

The next step in assuring that you get what you need is to write clear and accurate specifications of all items to be purchased. List all the features that you want (the lists of desirable features in the guide will help). Do not specify brand names except to describe specific features to ensure the most open and free competition among equipment suppliers. You should give purchase specifications to suppliers when requesting price quotations, so that your expectations are clear.



# Ranges

Description				
Number of Participants	Number of Ranges	Type	Top Cooking Section	Ovens <sup>1</sup>
15 to 30	1	Range 30-inch domestic gas or electric	4 open burners or heating elements	One or two ovens (above and below surface cooking)
31 to 100	1	Range <sup>2</sup> 32-to 48-inch commercial heavy duty gas or electric	Range Tops—Choose one or a combination of the following: open burners, hot tops, or fry top (griddle) (see drawing and description)	One full size or two space-saver ovens (on 45-inch to 48-inch ranges)
31 to 100 <sup>3</sup> (Institutions preparing many baked items)	1	Range <sup>2</sup> 56- to 72-inch commercial heavy duty gas or electric		Two full-size ovens or one full-size oven and one space-saver oven (on 56-inch ranges)

<sup>1</sup> Domestic ovens and commercial space-saver ovens should accommodate one 13-inch by 18-inch sheet pan or one 12-inch by 20-inch hot food service pan on each shelf. Commercial full-size ovens should accommodate one 18-inch by 26-inch sheet pan or two 12-inch by 20-inch hot food service pans on each shelf.

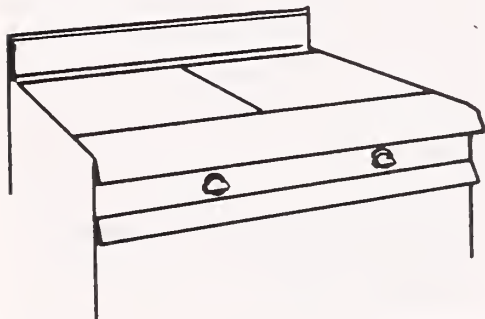
Commercial ranges can be bought with a convection oven under the range top. Convection ovens have an electric blower to circulate air within the oven compartment.

<sup>2</sup> Dimensions of commercial ranges vary depending on the manufacturer. Select dimensions to reflect available space, menu requirements, standard size pans, and so forth.

<sup>3</sup> If you do not have enough space for the larger two-oven range, you can supplement a smaller one-oven commercial range with a counter model domestic convection or microwave oven.

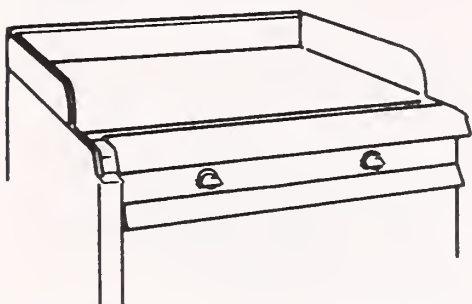
## Top Arrangements

Even Heat



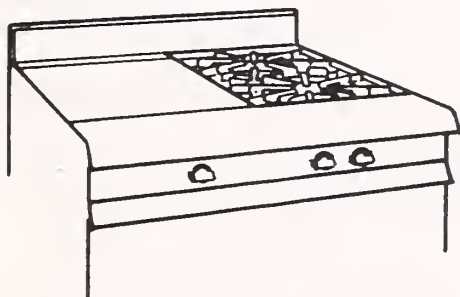
Even Heat Top — for heavy duty, continuous cooking; entire surface is heated.

Fry Top



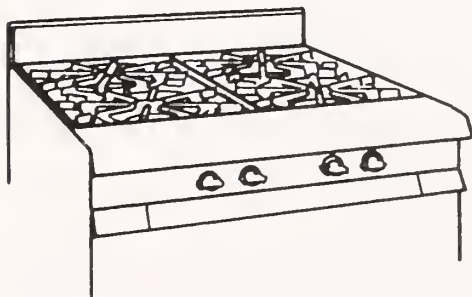
Fry Top (Griddle) — solid top with raised edges to prevent grease overflow.

Combination



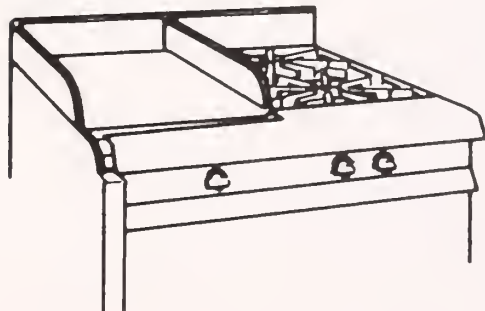
Combination of Open Burner and Even Heat — providing heavy duty, continuous cooking, and quick, short order cooking.

Open Burners



Open Top (Conventional) — quick cooking as heat is available almost instantly in case of electric and instantly in case of gas. Heat is more concentrated.

Combination



Combination of Fry Top and Open Top — area for griddle cooking and for short order cooking.

## Desirable Features (Commercial Range)

- Heating elements or burners with individual controls
- Automatic pilot on gas range
- Exterior finish of durable, rust proof, materials—baked enamel, stainless steel
- Parts that are replaceable
- Service available
- Two heavy duty chrome-plated oven racks (shelves)
- High shelf (optional)
- Easy accessibility for cleaning and repairing
- Six-inch adjustable legs
- National Sanitation Foundation (NSF) seal of approval
- American Gas Association (AGA) seal of approval, where applicable
- Underwriters Laboratory (UL) seal of approval, where applicable.

## Commercial Double Oven Range (Gas)



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# Ventilating (Exhaust) Systems

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Ranges and other cooking equipment used to cook food that produces smoke or grease-laden vapors should be equipped with an exhaust system. This system should meet the requirements for hood (canopy), exhaust duct, grease-removal device, and fire extinguishing equipment as specified by local codes or in the National Fire Protection Association (NFPA) Publication Number 96, "Vapor Removal From Cooking Equipment 1978." This is a technical document for industry representatives. You may wish to ask your wholesaler/retailer to guarantee in writing that your purchases will meet these requirements. Check local codes before buying inexpensive, domestic-type (for the home) hoods.

To determine the size of hood (canopy) you need, first find out the dimensions of the range and any other cooking equipment it must cover (the hood must extend at least 6 inches beyond all sides of equipment not immediately adjacent to walls or other construction).

**A proper-size hood must then be equipped with proper:**

1. duct system
2. grease-removal devices
3. exhaust fan(s)
4. fire extinguishing equipment.

All this equipment must be specified to meet the most current NFPA Publication Number 96 code and applicable local codes. This pamphlet covers aspects of a ventilation system including materials used to make it, design, and air movement. Locally designed and fabricated ventilators should also comply with NFPA No. 96 standards.

**All ventilators should have the following basic approvals. They should:**

- a. Meet National Sanitation Foundation (NSF) standards, as well as all the local health codes
- b. Meet the requirements of the NFPA Standard No. 96 entitled "Vapor Removal From Cooking Equipment 1978," plus local fire codes
- c. Meet the local building code requirements
- d. Meet the standards of the insurance rating bureau that has jurisdiction over the area where installed
- e. Have Underwriters Laboratory (UL) seal of approval.

**Desirable Features (Ventilators):**

- a. Grease filters that are readily accessible and easily cleaned. Commercial equipment should have the "permanent" type of filter that is formed of wire mesh or metal screening that is corrosion-resistant, noncombustible, and has a high melting point.
- b. Grease filters installed in a horizontal position.
- c. Amount of air exhausted that is capable of removing the greasy vapors, steam, and smoke generated, changing air 20 to 30 times per hour.



## Refrigerators and Freezers

Number of Participants	Number	Description
15 to 30	1	REFRIGERATOR-FREEZER, <sup>1</sup> domestic type, 2-door frostless (19 to 21 cubic feet combination). Capacity of freezer section should not be less than 5 cubic feet. Shelving in refrigerator section should accommodate interchangeably one 13-inch by 18-inch sheet pan or one 12-inch by 20-inch hot food service pan.
31 to 45	1	REFRIGERATOR, commercial type, 1-section, 1-door, reach-in (20 to 30 cubic feet) with standard adjustable wire shelving. Each shelf should accommodate interchangeably one 18-inch by 26-inch sheet pan or two 12-inch by 20-inch hot food service pans.
		-PLUS-
	1	FREEZER, domestic type upright or chest type (15 to 20 cubic feet capacity).
46 to 100	1	REFRIGERATOR, commercial type, 2-section, 2-door, reach-in (40 to 60 cubic feet). Each shelf within each refrigerator section should accommodate interchangeably one 18-inch by 26-inch sheet pan or two 12-inch by 20-inch hot food service pans. Both sections should have standard adjustable wire shelving, or the upper half of one section should have pan files that can accommodate interchangeably 18-inch by 26-inch sheet pans and 12-inch by 20-inch hot food service pans.
		-PLUS-
	1	FREEZER, domestic type, upright <sup>2</sup> or chest type (20 to 25 cubic foot capacity).

<sup>1</sup> If frequency of deliveries is such that you need additional refrigerator and freezer space, then we suggest a 19- to 21-cubic foot domestic type refrigerator and a 15-cubic foot domestic type freezer.

<sup>2</sup> Upright freezer is preferable to chest type. Uprights offer vertical space that saves time when finding items.

A thermometer is essential for each refrigerator and freezer (see thermometers under Small Equipment list).

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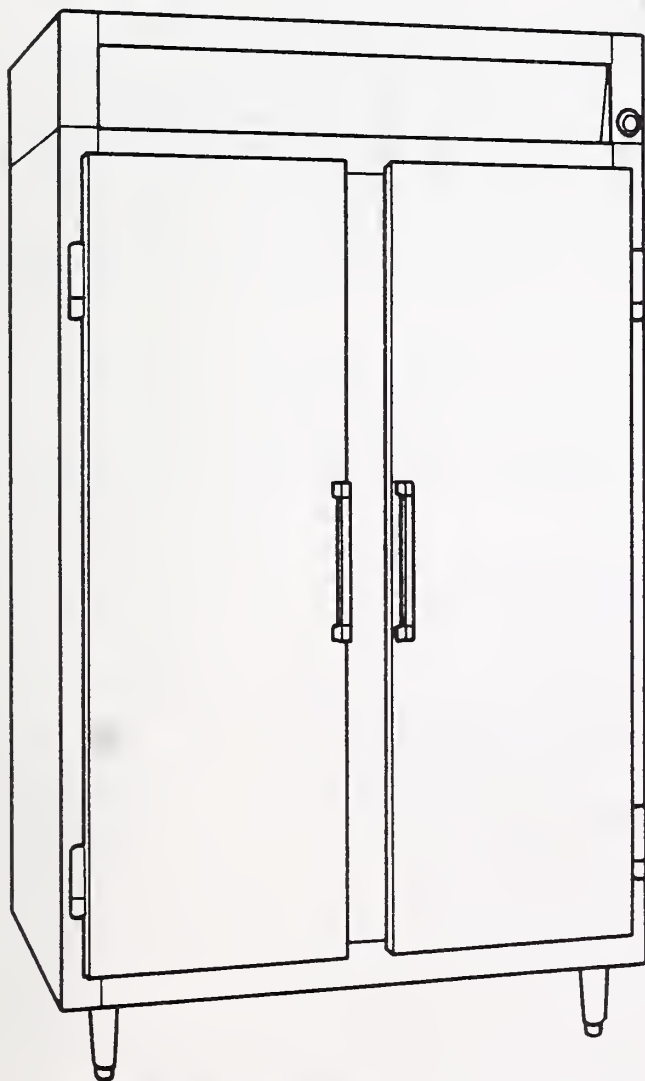
### Desirable Features (Commercial Reach-in Refrigerators and Freezers):

- 115 volts, single phase
- Exterior mounted built-in indicating thermometer
- Power indicator light
- High temperature warning light
- National Sanitation Foundation (NSF) seal of approval
- Interior light
- Six-inch adjustable legs
- Two and one-half inches of foamed-in-place or froth-type urethane insulation throughout, including door
- Seamless interior construction
- Durable door hinges, handles, and other hardware
- Self-closing door with safety stops
- One-piece molded door gasket for a positive seal
- Heavy duty adjustable shelving
- All interior accessories easily removable without special tools
- Uniform air distribution throughout
- Condensor that is accessible for cleaning
- Durable means of locking doors
- Underwriters Laboratory (UL) seal of approval.

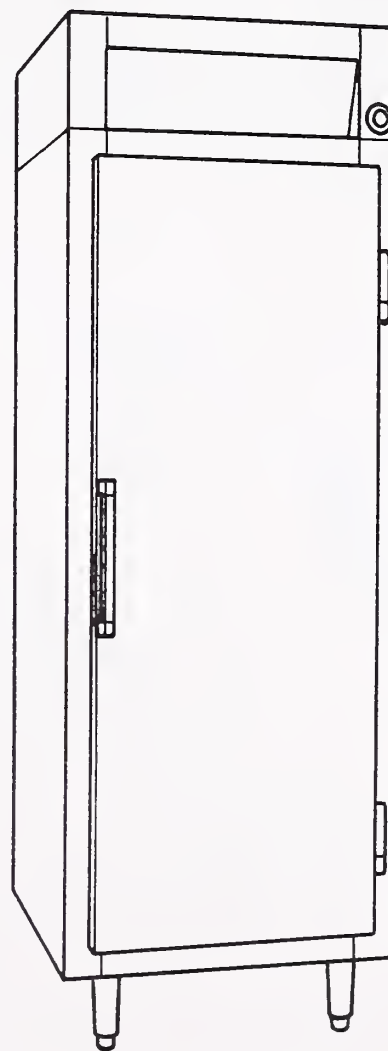
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### Commercial Reach-In Refrigerators or Freezers

Double Section



Single Section

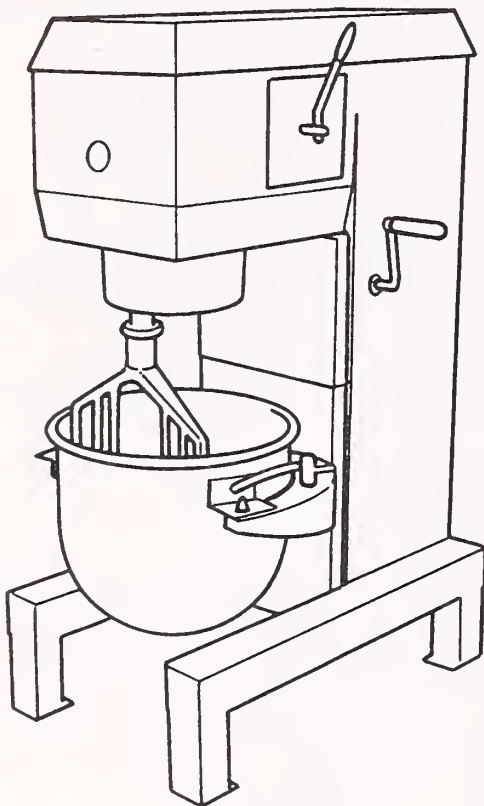




# Food Mixers

Number of Participants	Number	Suggested Commercial-Type Electric Mixer
15 to 30	1	5- to 7-quart table model
31 to 75	1	10- to 12-quart table model
76 to 100	1	20-quart table or floor model

Mixer



Whip



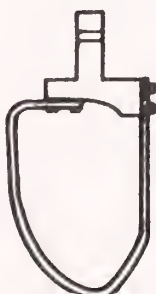
Batter Beater



Dough Hook



Pastry Knife



## Desirable Features (Mixer):

- Three or more speeds
- Gear drive
- Manual bowl lift
- Attachment hub and availability of attachments
- Totally enclosed electric motor
- National Sanitation Foundation (NSF) seal of approval
- Underwriters Laboratory (UL) seal of approval
- Mixer stand, stationary or portable (on casters), for 20-quart table model mixers (**optional**)
- Stainless steel mixer bowl (**OPTIONAL BUT ESSENTIAL FOR HEAVY USE**).

If you plan to bake bread, rolls, cakes, cookies, and the like, select mixer size, power, and attachments carefully. Mixers will come standard with a tinned bowl and a flat beater and wire whip. Other attachments that you may need for greater versatility include the following:

- Dough hook (for mixing bread, rolls, and other doughs)
- Pastry knife (for cutting shortening into flour)
- Vegetable slicer with slicing, grating, and shredding plates
- Meat and food chopper
- Bowl splash cover
- Food strainer and colander
- Bowl extension ring.

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## Slicers

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We recommend electric slicers as **optional** equipment for any institution that will do much slicing (cheese, luncheon meats, roast beef, turkey, etc.).

You can maintain better uniformity of slices and better yield and control of serving sizes with an electric slicer.

### Desirable Features (Slicer):

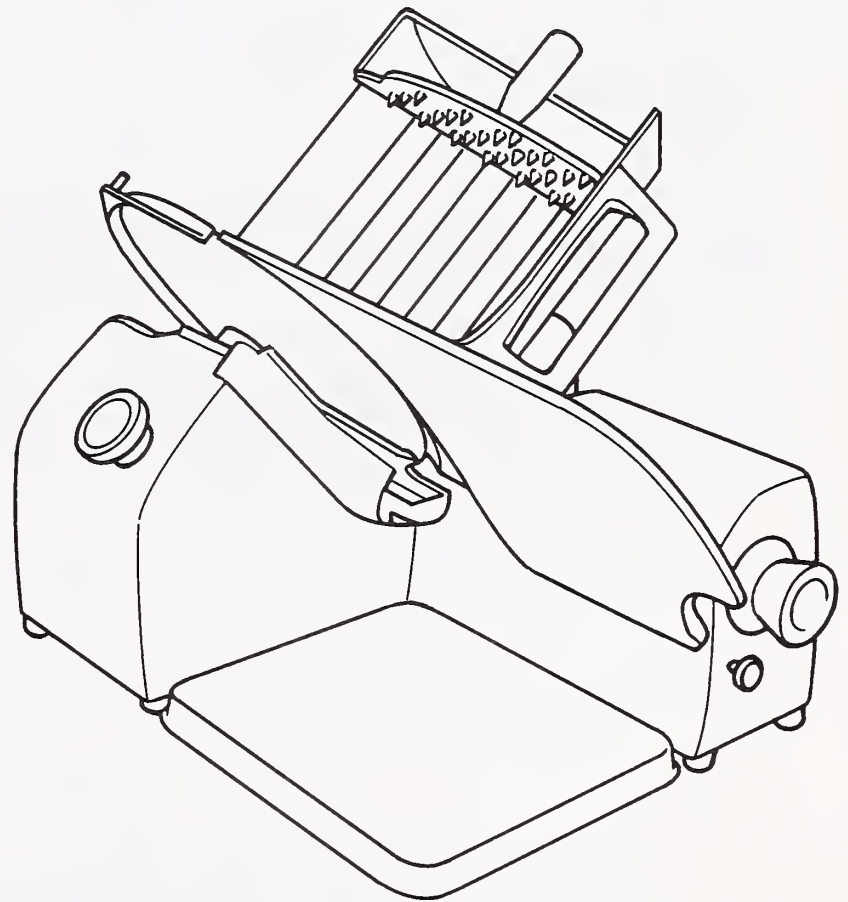
- Easy adjustment to vary thickness of slice
- Stainless steel or plated carbon steel knife
- Easy disassembly for cleaning
- Maximum protection against contact with knife
- Gravity feed, manually operated feed grip
- A “lifting foot” or lever to raise slicer for cleaning under it
- National Sanitation Foundation (NSF) seal of approval
- Underwriters Laboratory (UL) seal of approval.

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Number of Participants	Number	Equipment
15 to 45	1	Electric knife or 5½-inch-blade electric slicing machine
46 to 100	1	7- to 10-inch blade electric slicing machine

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**Commercial Slicer**  
7- to 10-inch blade



# Cleaning Equipment

## Dishwashers, Sinks, and Related Equipment

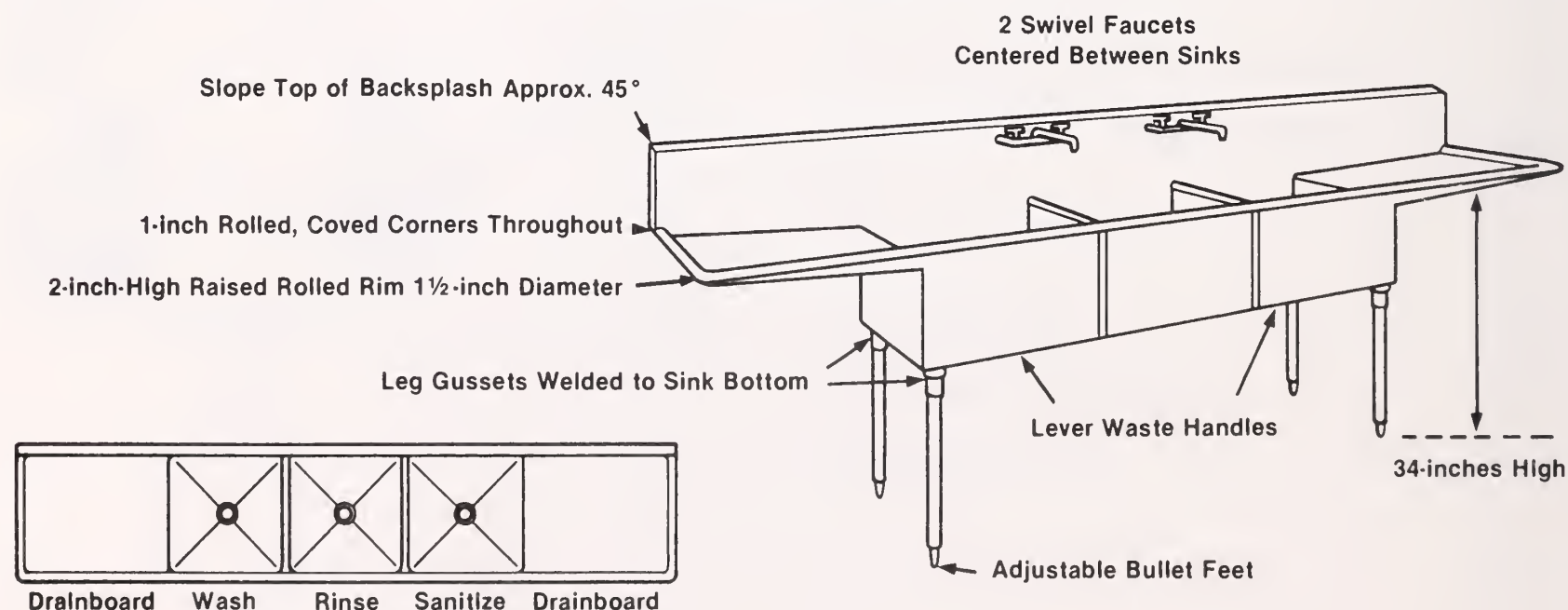
Type Table Service	Number of Participants	Number	Suggested Equipment
Nondisposables (permanent ware and eating utensils)	15 to 45	1	Sink, 3-compartment (using sanitizing solution for final rinse) <sup>1</sup>
		1	Sink, hand
		1	Dishwasher, domestic (optional) <sup>2</sup>
	46 to 100	1	Clean and soiled dish tables (optional, see drawing)
		1	Dishwasher, commercial <sup>3</sup>
		1	Sink, 3-compartment
		1	Sink, hand
		1	Disposer, commercial (optional)
		1	Booster heater (optional)
		1	Detergent and drying agent dispenser (optional)
Disposables (paper plates and disposable eating utensils)	15 to 100	1	Sink, 3-compartment
		1	Sink, hand
		1	Disposer, commercial (optional)

<sup>1</sup> Based on minimum standards in the Food Service Sanitation Manual, U.S. Department of Health, Education, and Welfare, Publication No. 78-2081. Sometimes an existing kitchen will have only one 1- or 2-compartment sink with drainboards in conjunction with dishpans. This is acceptable to most local health jurisdictions. Generally speaking, any new kitchen installation will have to meet Department of Health, Education, and Welfare Publication No. 78-2081 minimum standards.

<sup>2</sup> Domestic counter or undercounter dishwasher is permissible providing that it complies with the local health ordinances, and there is sufficient time to allow for the long cleaning and rinsing cycle.

<sup>3</sup> Commercial, counter or undercounter, stationary rack dishwasher with 2½- to 3-minute wash/rinse cycle that uses either a chemical sanitizing final rinse or hot water in excess of 180°F for final rinse. In the latter case, you will need a hot water booster heater to provide 180°, and should install indicating thermometers for measuring wash and final rinse water temperatures. A chemical sanitizing final rinse will preclude the necessity of a hot water booster and save the energy needed to provide 180°F final rinse.

### 3-Compartment Sink





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### Desirable Features:

#### Three Compartment Sink:

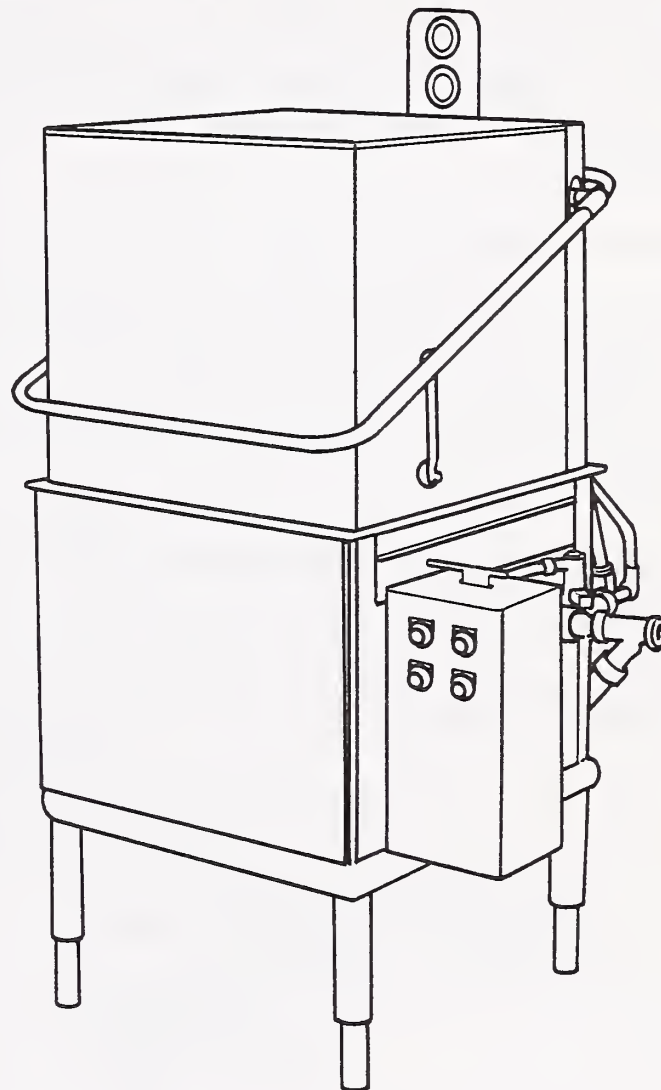
- Each compartment 10 to 14 inches deep, capable of accommodating 18-inch by 26-inch pans. Compartments measuring 30 inches by 24 inches are desirable if space is available.
- Fourteen-gauge 18-8 stainless steel fabricated sink with integral drainboards; backsplash; and tubular, adjustable legs; 16-gauge stainless is acceptable for smaller sinks.
- Approximate height of sink 34 to 36 inches to top of 1½-inch raised rolled rim.
- Swing faucet with replaceable valve seats.
- Exterior operated lever waste control.
- National Sanitation Foundation (NSF) seal of approval.
- Two-inch high, raised rolled rims (1½ inches in diameter) on drain boards.

#### Dishwashers (Commercial Counter or Undercounter):

- Stainless steel interior.
- Prewired, factory-installed, machine-mounted control panel.
- Exterior indicating thermometers to measure wash and rinse water temperature.
- Automatically timed wash and rinse cycles.
- National Sanitation Foundation (NSF) seal of approval.
- Underwriters Laboratory (UL) seal of approval.
- American Gas Association (AGA) seal of approval, if wash tank is gas heated.

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### Commercial Dishwasher (Single-tank Door-type)



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### Soiled and Cleaned Dish Tables for Commercial Dishwasher:

- Sixty inches in length for each.
- Fourteen-gauge, 18-8 stainless steel.
- Backsplash.
- Adjustable legs.
- Thirty-four inches to top of 1½-inch raised rolled rim on front side.
- National Sanitation Foundation (NSF) seal of approval.

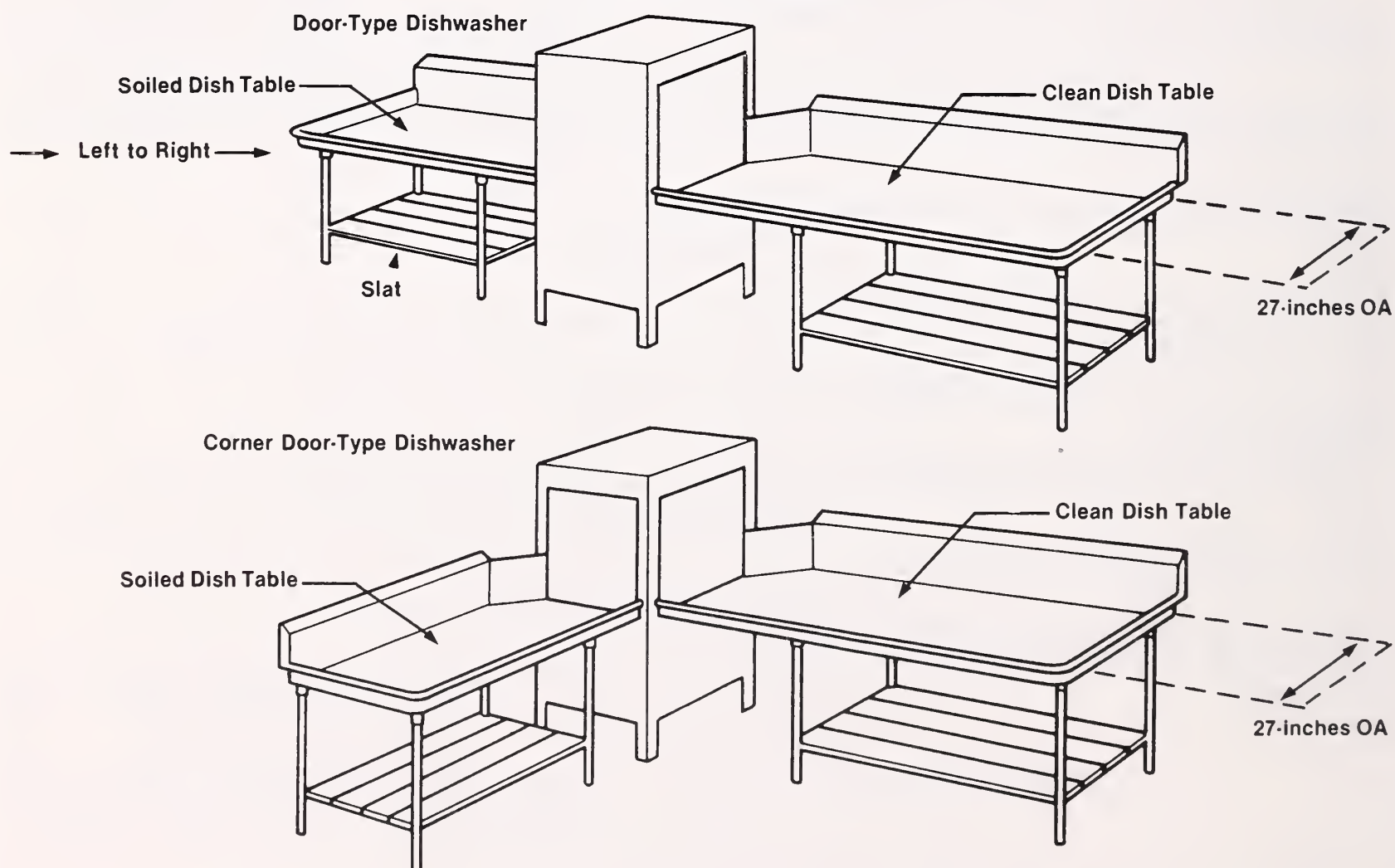
*See section on work tables for additional information.*

### Disposers:

- Three-fourths to one and one-half horsepower (H.P.) table-mounted (with no floor supports) disposer.
- Reversible electric motor for easy unjamming of unit.
- Continuous duty, electric motor with built-in overload protection.
- Motor shaft supported by either tapered or ball bearings with separate alignment bearing support.
- Heavy cast housing.
- Cutter block that can easily be replaced.
- Self-cleaning flushing action.
- Underwriters Laboratory (UL) seal of approval.

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### Commercial Dishwasher





## Worktables and Countertops

Number of Participants	Worktables, Countertops, or Both (Total Length in Feet)
15 to 30	10 feet
31 to 75	12-16 feet
76 to 100	16-20 feet

### Desirable Features:

#### Worktables:

- Dimensions: 4 to 8 feet in length, 30 inches wide (24 to 48 inches wide commonly available), 34 inches high.
- Materials: Worktable tops should be 14-gauge 18-8 stainless steel with 1½-inch rolled edge; adjustable, tubular legs can be galvanized steel.
- Mobile tables should have 5-inch swivel wheel casters.
- Undershelf and utensils drawer(s) with recessed handles, or open front table for accommodating mobile storage bins, mobile drawer units, racks, etc. Undershelf

should be full length for storage of sheet pans, hot food service pans, etc.

- Made in accordance with National Sanitation Foundation (NSF) standards. If fabricated locally, particular attention should be given to exposed edges, table legs, and feet.

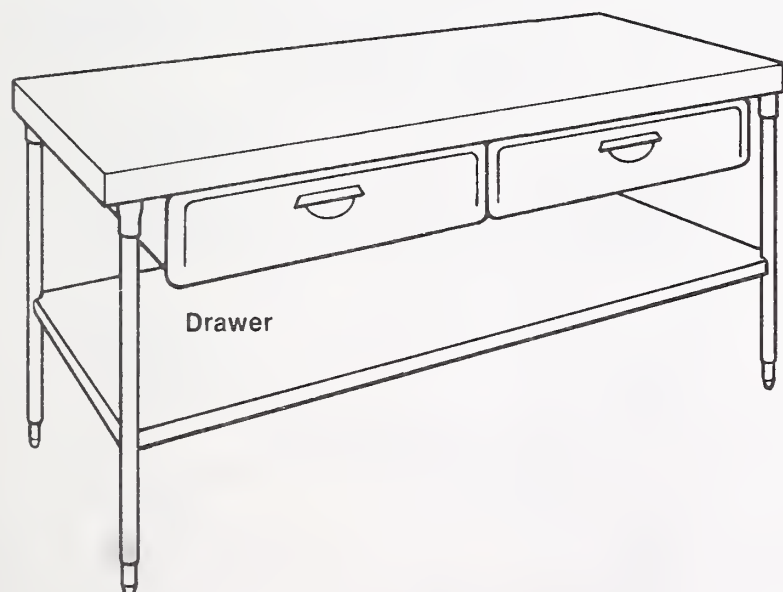
- Optional Features: Shelf over table for condiments, overhead utensil racks, curbing, sinks, etc.

Check with local health department officials to find out whether worktables with laminated plastic, maple, or solid plastic tops are acceptable.

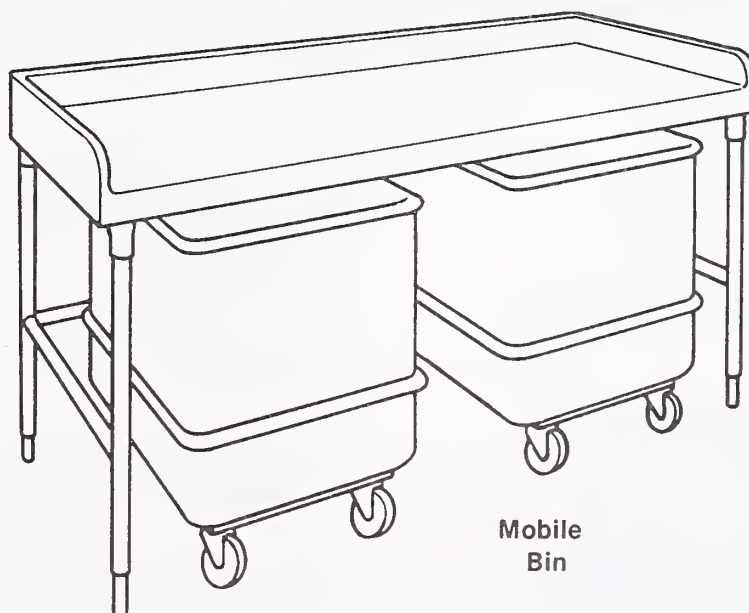
#### Countertops:

If refrigerators, dishwashers, floor cabinets, and other equipment with built-in countertops are used as worktables, then the countertops should be deeper than 18 inches (from front to back) and wider than 24 inches (from side to side). Otherwise, the workspace may not be adequate for efficient food preparation.

**Worktable**



**Baker's Table with Mobile Bins**



## Shelving and Carts

Number of Participants	Square Feet of Shelving <sup>1</sup>	Number of Mobile Utility Carts <sup>2</sup>
15 to 30	65 <sup>3,4</sup>	1 (optional)
31 to 45	100 <sup>3,4</sup>	1 (optional)
46 to 75	165 <sup>3,4</sup>	1
76 to 100	210 <sup>3,4</sup>	1

<sup>1</sup> The number, type, and dimensions of shelving units (mobile metal shelving, base cabinets, upright storage cabinets, built-in wooden shelving, etc.) you choose will depend on the space you have for dry and other storage. The total square feet of shelving in all units should approximate these recommended amounts.

<sup>2</sup> Mobile utility carts are optional equipment that you can use for carrying stored items to use areas, food from the kitchen to the serving and dining area, and dirty dishes to the dishwashing area. They have many other uses.

<sup>3</sup> Although mobile metal shelving is generally recommended for the dry storeroom and other storage, upright storage cabinets or base cabinets may be used along with mobile metal shelving. If you use base kitchen cabinets for dry storage, then these should be deeper than 18 inches (front to back), 30 to 34 inches high (normal height for such cabinets), with doors opening wider than 12 inches, and shelving spaced to accommodate No. 10 cans.

<sup>4</sup> For maximum storage space in the dry storeroom, limit aisle width to no more than 24 inches.

### Desirable Features:

#### Shelving:

- We recommend that shelving in a dry storage area be at least 21 inches wide with a minimum of 10 inches between shelves except for first shelf off floor. Here the vertical distance between floor and first shelf should be approximately 36 inches where platform storage cans for flour, sugar, and similar items are located; otherwise, 6 inches off floor.

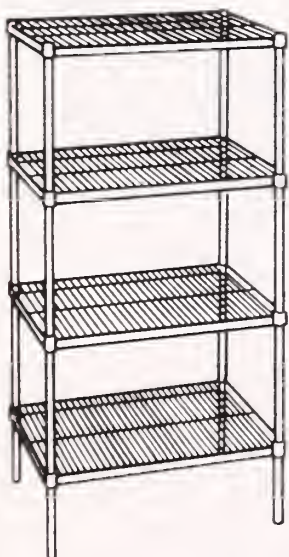
- Wall shelves should be 84 inches high with bulk storage of light items such as paper goods on the top shelf.
- Slotted or louvered metal shelving or open wire construction is preferable to solid shelving since it allows free air flow and easy cleaning.
- Metal shelving can be stationary or mobile. Mobile shelving should be fitted with 5-inch swivel casters.
- Metal shelving should have a rust preventive finish.
- Shelving should be fabricated in accordance with National Sanitation Foundation (NSF) standards.

#### Mobile Utility Carts:

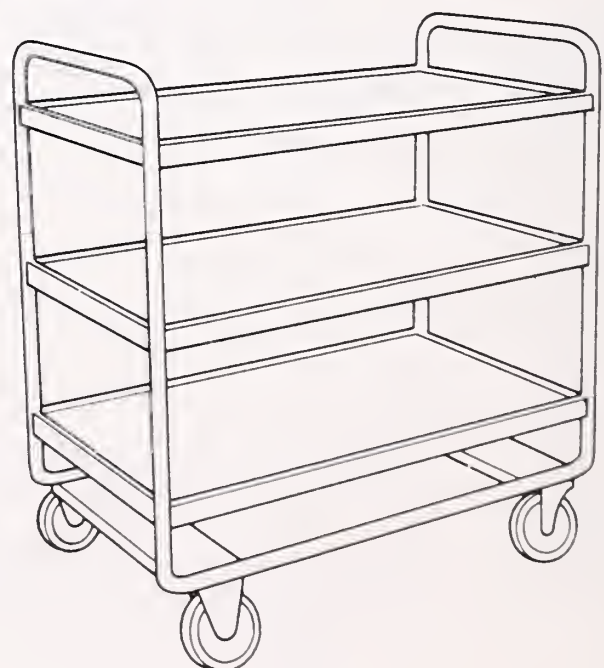
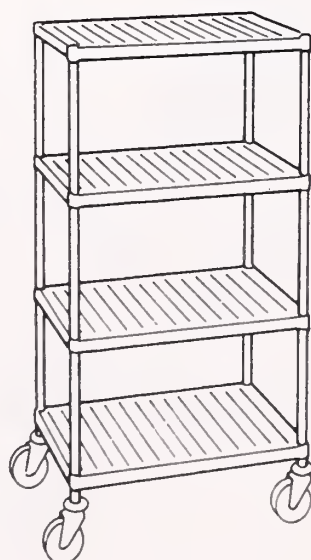
- Two or three shelves, stainless steel.
- Stainless steel or aluminum tube frame.
- Five-inch ball bearing casters, two swivel and two rigid, made from moisture-, chemical-, and grease-resistant material.
- Fabrication in accordance with National Sanitation Foundation (NSF) standards.

Mobile Utility Cart

Wire Shelving



Slotted (louvered) Metal Shelving on Swivel Casters



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## Serving Equipment

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Number of  
Participants

Mobile Hot Food Table<sup>1</sup>

46 to 100

1 (optional)

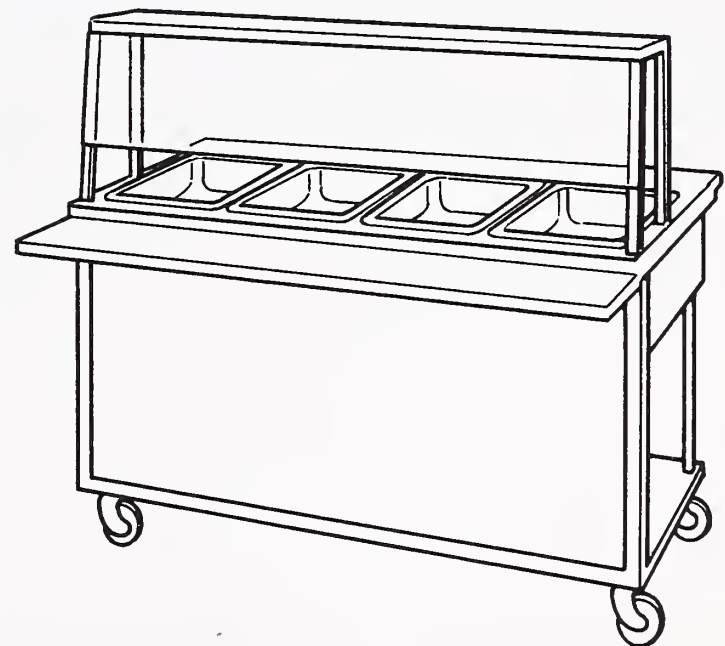
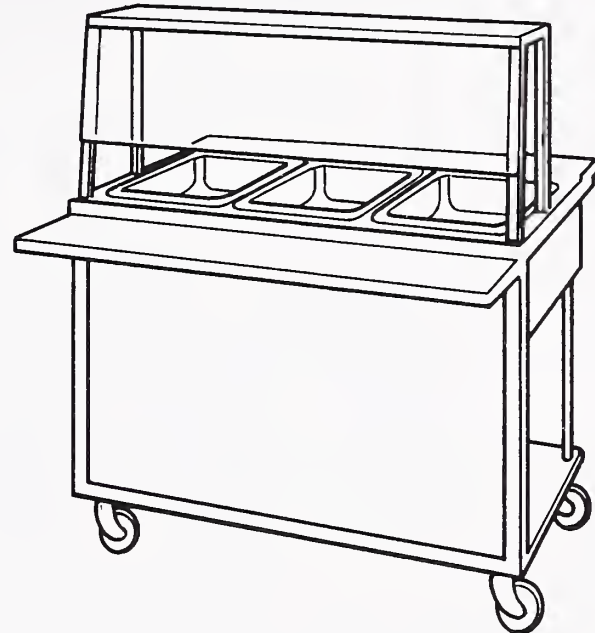
<sup>1</sup> We recommend mobile hot food table as **optional** equipment for larger institutions that need equipment to hold food hot between preparation and service (as in situations with more than one serving period), or that need to transport hot food from the kitchen to a distant area for service.

### Desirable Features:

- Three or four hot food wells that accommodate one 12-by 20-inch pan each.
- Dry heat wells that are individually heated with thermostatic controls.
- Stainless steel wells and top.
- Drop-hinged carving board and tray slide, stainless steel (**optional**).
- Five-inch ball-bearing caster wheels made of moisture-, chemical-, and grease-resistant materials (two swivel, two stationary).
- Underwriters Laboratory (UL) seal of approval.
- National Sanitation Foundation (NSF) seal of approval.

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### Mobile Hot Food Tables (three and four Wells)



Mobile hot food tables should have a sneeze guard and tray slide if children will be served at the food table.

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## Dining Area Equipment

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Tables and chairs should accommodate the number of children, teachers, aides, and others to be seated at any one time. When deciding how many to buy, you will need to know how many people will be served at each meal period.

The height of the tables and chairs and the distance between the children depend directly on the age of the children being fed.

### Recommended Measurements for Dining Area Furniture

Age <sup>1</sup>	Table Height (inches)	Chair Height (inches)	Space per Chair (inches)
Preschool	20-22	10-12	15-20
Elementary	23-27	13½-17	18-24
Junior-Senior High School	27-30	15-18	20-24

<sup>1</sup> If the program accommodates both older and younger children, then the height and spacing of the furniture should be based on that for the older children.

A wide variety of types, shapes, and sizes of tables and chairs is available. Tables may be rectangular, round, square, or other shapes and may have separate chairs or benches or integral seats that attach to the table. Mobile folding tables (with or without casters) are generally recommended because of their versatility.

### Desirable Features:

#### Mobile Folding Tables:

- Table top should be made of particle board or plywood three-fourths to seven-eighths of an inch thick with plastic laminate and backing sheet.
  - Structural framing of the tables should be designed for minimal obstruction beneath the table.
  - Critical joints in the framing should be welded or riveted. Pivot points for folding tables should be bolts with locking nuts or rivets.
  - Tables should fold so that the top surface is exposed.
  - Tables should open and close in one simple operation.
  - There should be springs or torsion bars at the hinge area to counter-balance the heavy weight of the table.
  - Consider colors and other decorative finishes.
- #### Chairs:
- Frame should be heavy gauge tubular steel with chrome-plated legs; chairs should be easy to stack.
  - The chairs should be at the proper height and contoured for comfort.
  - Seats and backs should be made of durable stain-, mar-, and scratch-resistant plastic. Polystyrene or synthetic plastic impregnated with pure melamine or a molded fiberglass material are examples of acceptable materials. Colors should be bonded and nonfading.
  - Seats and backs should be attached to a durable frame with rivets that do not show.
  - Chairs should be equipped with either steel or rubber glides.

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# Small Equipment

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The next few pages list small equipment that you may need if you prepare or serve meals on site. Use the proper measuring utensils for preparation and serving to ensure that you serve the required portion sizes, and to help control food costs. You can determine the exact type, size, and number of small equipment items you need from the menus and number of meals you will serve.

## Example:

Menu Item	Quantity	Small Equipment
Biscuits	50	Mixing bowl Measures Rolling pin Biscuit cutters Sheet pans Pastry brush

By considering the menus in this way, you can decide what small equipment you will need.

NOTE: We recommend one item each for 15 to 100 participants, except where otherwise indicated.



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## Cutlery, Measures, Utensils, and Related Items

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**BOARD**, cutting, composition hard rubber or plastic, minimum dimensions 15 by 20 by 3/8 inches

**BOWLS**, hand mixing, 3 to 20 quarts, aluminum or stainless steel

### BRUSHES

- Pastry, nylon bristles
- Vegetable, nylon bristles

**CAN OPENER**, institutional, table mounted, hand operated (**electric optional**)

**COLANDER**, 11 quarts or larger, aluminum or stainless steel with handles (2 colanders for 46 to 100 participants)

### CUTTERS

- Biscuit, 2-inch diameter
- Domestic electric food cutter/processor (**optional**)
- Dough cutter (**optional**, needed if bread and rolls are baked)
- Salad, institutional, aluminum body with base clamp and stainless steel or chrome-plated slicing and shredding cone, hand operated. (Note: Not needed if facility has a mixer with salad attachments.)

**FORK**, cook's 12 to 13 inches, 2-tine, stainless steel

**GLOVES** (mitts) oven, asbestos (two pairs)

**GRATER**, hand, heavy duty, fine or coarse, corrosion-resistant metal

**HOT PADS** (**optional** for protecting laminated/plastic work surfaces)

### KNIVES

- Bread, 12-inch blade (**optional**, needed for slicing baked bread)
- Electric, 110 to 120 volts AC, 60 cycles, serrated stainless steel blade with blade release (**optional**)
- Paring, clip point, 3- to 4-inch blade (2 knives for 31 to 100 participants)
- Utility (all purpose), 6- to 8-inch blade
- Sharpener, carborundum stone, 8-inch double face; also a 10- to 12-inch steel. Needed to keep knives sharp.

**LADLE**, 1, 4, 6, and 12 ounces, short handle, stainless steel

**MEASURES**, with pouring lip, aluminum

- Cup, graduated in 1/4 and 1/3 cups
- Quart, graduated in cups
- Two-quart, graduated in cups
- Gallon, graduated in quarts,
- Measuring set, 1/4, 1/3, 1/2 and 1 cup for dry measure, aluminum

**PEELER**, fruit and vegetable, swivel type

**ROLLING PIN**, revolving handles, 3-inch diameter by 15-inch length (**optional**, needed if you bake biscuits, cookies, etc.)

**SCALE**, domestic type, table model, 25- to 30-pound capacity in 1-ounce graduations, zero indicator

### SCOOPS

- Number 40, Number 20 stainless steel
- Size 2 (grocer type), 5 by 8-1/2 inches, aluminum

**SCRAPER**, bowl, rubber blade, 4-1/2 by 2-1/2 inches

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## **SHAKERS**

Salt and pepper, aluminum or stainless steel

**SHEARS**, kitchen, 7 to 8 inches, steel

**SIEVE**, flour, 10 to 14 inches in diameter, aluminum (**optional**, needed if you use such products as dehydrated eggs, etc.)

**SILVERWARE BOX**, with compartments (**optional**, needed if you use nondisposable utensils)

**SKIMMER**, 6-inch stainless steel

## **SLICERS**

- Cheese, wire, noncorrosive metal (**optional**)
- Egg, wire, noncorrosive metal (**optional**)
- Meat, domestic electric slicing machine (**optional**)

**SPATULA**, frosting, approximate flat area 6-1/2 by 1-1/2 inches

## **SPOONS**

- Measuring set, graduated from 1/2 teaspoon to 1 tablespoon, aluminum or stainless steel (2 measuring sets for 31 to 100 participants)
- Serving, slotted or perforated, 12 to 14 inches long, stainless steel (4 spoons for 15 to 100 participants)

**SPREADER**, sandwich, 3-1/2-inch blade with serrated edge

**STRAINER**, spaghetti, 3 quarts, with handles, sized to fit top of stock pots and double boilers

## **THERMOMETERS**

- Meat, temperature range 130° to 195°F in 10-degree divisions, stainless steel stem
- Oven, minimum temperature range 150° to 550°F in 25-degree divisions
- Refrigerator/freezer, -20° to 60°F (required wherever refrigerator or freezer lacks a built-in indicating thermometer)

**TIMER**, 1 hour in minute graduations with alarm

**TONGS**, salad, 9 to 11 inches long, stainless steel (4 tongs for 15 to 100 participants)

**TURNER**, hamburger, approximate flat area 3 by 7 inches

**WHIP**, French, 12 to 14 inches long, balloon type corrosion-resistant.

## Pots, Pans, and Related Items

Item	Number of Participants			
	15-30	31-45	46-75	76-100
<b>Double Boilers<sup>1</sup></b>				
8-1/2 Quart	1			
11 Quart		1		
17 Quart			1	
24 Quart				1
<b>Stock Pots with covers</b>				
3-3-1/2 Gallon		1	1	1
5 Gallon			1	
8 Gallon				1
<b>Sauce Pans</b>				
3-1/2-4 Quart	1			
5-1/2-6 Quart	2	1	1	1
7 Quart		1		
8-1/2 Quart			1	1
<b>Sheet Pans</b>				
(18"x26"x1")		2	2	2
(13"x18"x1")	4	2	4	4
<b>Hot Food Service Pans<sup>2</sup></b>				
(12"x20"x2-1/2")	2	3	4	5
(12"x20"x4")	1	1	1	1
(12"x20"x6")			1	1
(10"x12"x4" with cover)	2	2	2	2
<b>Muffin Pans</b>				
Cup Size (2-3/4" dia. x 1-1/2" depth)	2 (optional)	3-4 (optional)	5-7 (optional)	7-9 (optional)
<b>Bread Pans</b>				
(Approximate size 4"x10"x4")	1-2 (optional)	2-4 (optional)	4-5 (optional)	5-7 (optional)
<b>Storage Containers (10 Gallon)<sup>3</sup></b>	2-4 <sup>3</sup>	2-4 <sup>3</sup>	2-4 <sup>3</sup>	2-4 <sup>3</sup>

<sup>1</sup> Two loop handles per container. In addition, the inside (top) container should have straight sides and a flat bottom. You can use both top and bottom of double boiler as stock pots, that is, one 8-1/2-quart double boiler serves as two 8-1/2-quart stock pots.

<sup>2</sup> The hot food service pans are for baking, roasting, mixing, serving, and storage.

<sup>3</sup> Use for storing USDA-donated flour, rice, beans, rolled wheat, etc. Exact number of storage containers depends upon available USDA-donated foods. We recommend galvanized metal or plastic garbage cans (new) with tight-fitting lids.

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## Table Service (For Family Style)\*

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### **BOWLS**

- Cereal or soup, capacity in excess of 1 cup, plastic or china (**optional**)
- Serving, oblong, plastic
- Fruit, 3-1/2 to 4 inches in diameter, plastic or china (**optional**)

### **GLASSES**

- Juice, 5-ounce, plastic or glass
- Water, 10-ounce, plastic or glass

**LADLES**, soup (short handle), 4-6 ounces

### **MUGS**

- 8-ounce, china or plastic (**optional**)
- 6-ounce china or plastic for smaller children

**PITCHERS**, 2-quart, noncorrosive metal or heavy plastic

**PLATES OR TRAYS**, dinner, plain or with compartments, plastic or china

**PLATTERS**, serving, plastic or china

**SILVERWARE** (flatware)

Forks, knives, teaspoons, and soup spoons, stainless steel

\*The number of each item you need depends on the number of children you will serve, number per table, etc. When ordering, include extra dinner plates, glasses, etc., to allow for breakage. Consider disposable items.

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## Cleaning Equipment

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**BROOM**, household type, corn bristles

**BRUSHES**

- Pot, nylon bristles
- Scrub, nylon bristles

**CANS**, garbage (trash), 20-gallon with tight-fitting lid, domestic, galvanized metal or heavy duty plastic (minimum of 2 cans for 15 to 30 participants, 3 cans for 31 to 100 participants, or equivalent number of racks for holding disposable trash bags)

**DUSTPAN**, commercial kitchen type, wood handle

**GLOVES**, rubber, elbow length

**MOP**, wet, 12-inch strands, wood handle

**MOP PAIL**, 14 to 16 quarts with wringer

**RACKS**

- Dish, needed for commercial dishwasher, minimum of 4 racks for 46 to 100 participants
- Dish drain (**optional**, needed when washing dishes by hand)

**TOWELING**, cleaning and wiping. (Quantity depends on local laundry services, number of participants, etc. Do not use for drying dishes or eating utensils.)



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# Space Requirements

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The following chart will help determine the amount of space you need for onsite food facilities. Requirements vary substantially depending on the menu, how you prepare and serve food, frequency of deliveries, configuration of available space, and so forth. However, you can use the chart as a general guide in determining the amount of space you need for a new facility or in evaluating the adequacy of existing space.

Work Area	Number of Square Feet Required Per Child Served	
	1-50 children	50-100 children
Preparation	4.5	3.5
Dry Storage	1.5	1.5
Dishwashing	1.5	1.0
<b>Total Kitchen</b>	<b>7.5</b>	<b>6.0</b>
Dining Area	12*	12*

\*You should compute dining space on the number of children you will serve *at one time*, not the total number of children you will serve. Space requirements will vary with the kind of tables and chairs you use.

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## Example

A child care center prepares meals for 60 children. They are served in two shifts, 30 at a time. The approximate space requirements for a kitchen and dining area for this center are:

### Kitchen:

60 children x 6 square feet per meal = 360 square feet

### Dining Area:

30 children per serving period x 12 square feet per meal = 360 square feet

You will need additional space if you want to provide office space, employee lockers and toilets, receiving and waste-holding areas, walk-in refrigerator or freezer space, and so on.

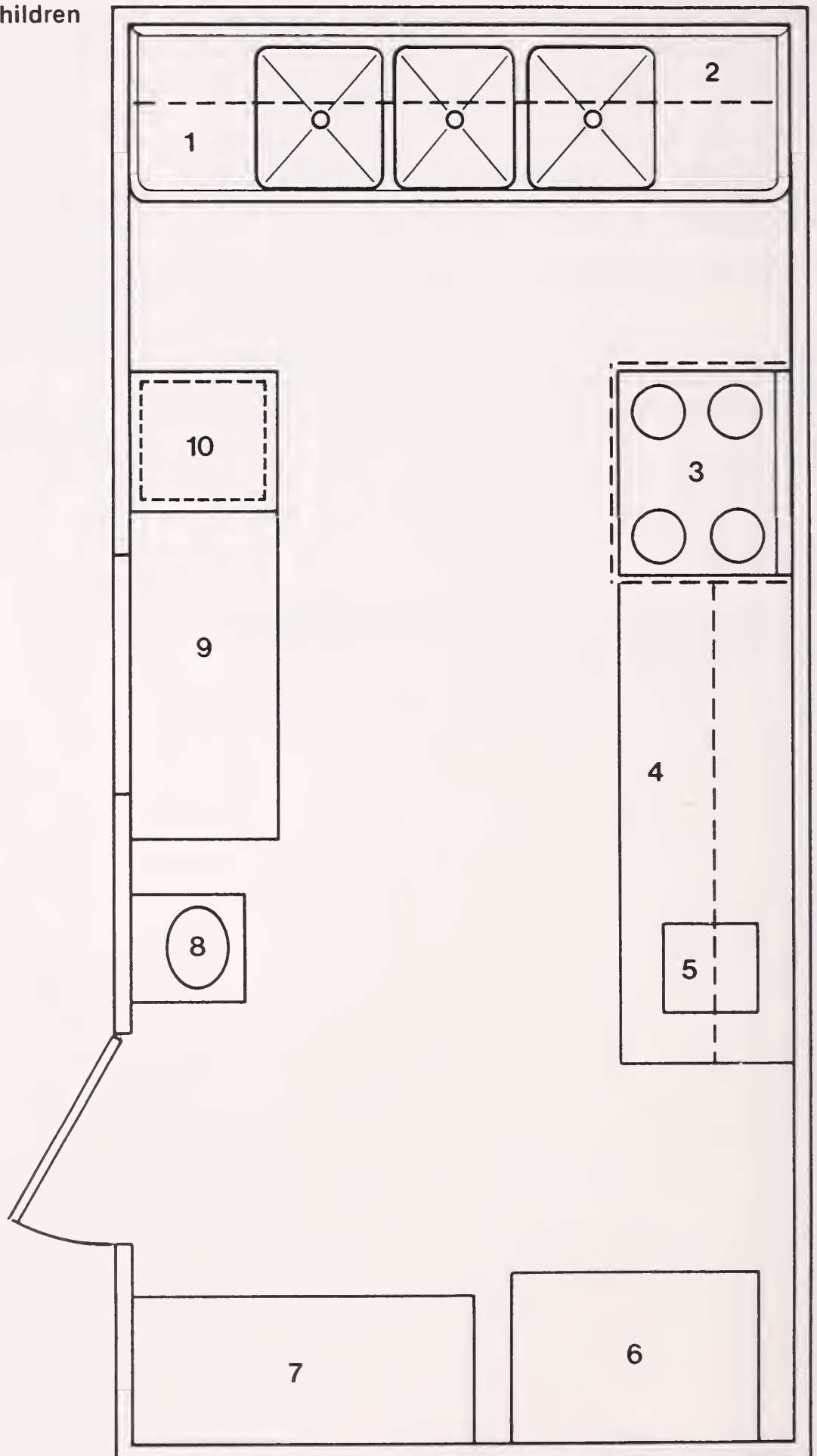
# Sample Kitchen Layouts

## Sample Kitchen Layout for 15 to 30 Children

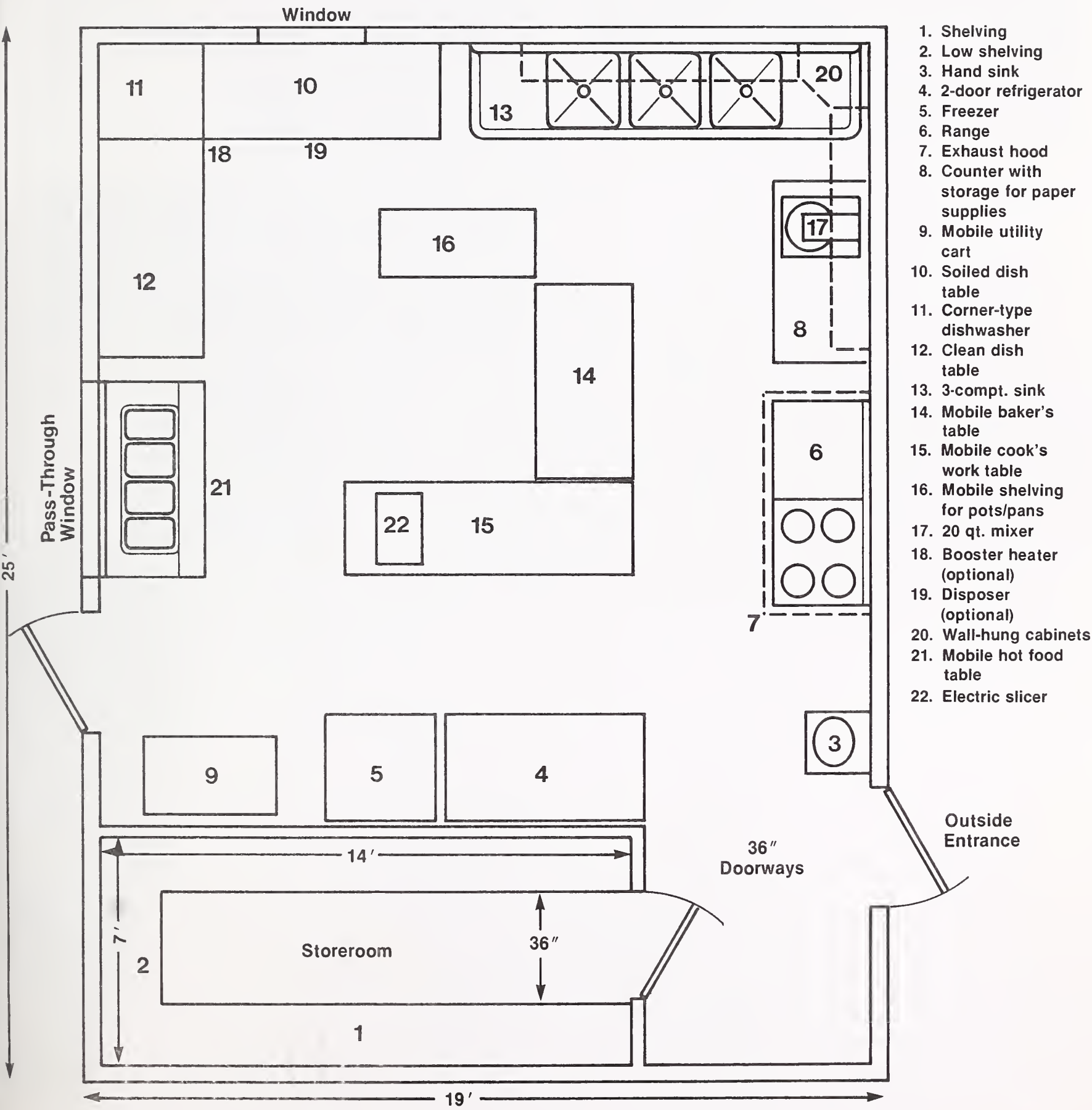
### EQUIPMENT LIST

1. 3-compartment sink
2. Wall-hung cabinets
3. Domestic range and vent hood
4. Cabinet with work counter
5. 5-7 quart mixer
6. Domestic refrigerator-freezer
7. Wire shelving
8. Hand sink
9. Work counter with pass-through window
10. Domestic under-counter dishwasher

Scale  $\frac{1}{4}'' = 1'$



Sample Kitchen Layout for 100 Children (3 Meals)



- 1. Shelving
- 2. Low shelving
- 3. Hand sink
- 4. 2-door refrigerator
- 5. Freezer
- 6. Range
- 7. Exhaust hood
- 8. Counter with storage for paper supplies
- 9. Mobile utility cart
- 10. Soiled dish table
- 11. Corner-type dishwasher
- 12. Clean dish table
- 13. 3-compt. sink
- 14. Mobile baker's table
- 15. Mobile cook's work table
- 16. Mobile shelving for pots/pans
- 17. 20 qt. mixer
- 18. Booster heater (optional)
- 19. Disposer (optional)
- 20. Wall-hung cabinets
- 21. Mobile hot food table
- 22. Electric slicer

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# Purchasing and Bidding Procedures

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Child Care Food Program regulations set forth procurement standards that you must adhere to when you buy food service equipment with Federal funds. The State agency may require you to use competitive bid procedures when you buy equipment for \$10,000 or more. The objective is to ensure maximum open and free competition. The same procedure might also get you a better price if you are buying equipment for less than \$10,000. Contact the administering agency for guidance to be sure you are following the required procurement procedure.

Comparing printed literature from various companies will help you draft descriptions of what you want. Your descriptions should include the following:

- 1) Delivery date and time
- 2) Where to be delivered, method of delivery
- 3) Installation, if desired
- 4) Demonstration of equipment onsite
- 5) Guarantee/warranty expected
- 6) Service contract, if desired
- 7) Operating manuals to be furnished.

Know what features you want and need before beginning the actual purchasing procedure. Know the reputation of the firm from which you purchase. Will the company stand behind the product? Does it provide installation and service? Think your needs through as far ahead as you can to make sure you get the equipment that suits your needs best.





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CHILDREN'S LITERATURE